AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-7 (Cancelled).

8.(Currently Amended) An isolated variant of an *Erysipelothrix rhusiopathiae* surface protective antigen SpaA protein or of a shortened form thereof (known as ΔSpaA protein),

wherein the SpaA protein ~~has~~ comprises the amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:7, and the ΔSpaA protein is a shortened form of the SpaA protein in which ~~207~~the C-terminal 206 amino acid residues ~~at the C-terminus~~ of the SpaA protein of the SE9 strain of *Erysipelothrix rhusiopathiae* are deleted,

wherein said variant is immunogenic, and expressed in *E. coli* as inclusion bodies, and is selected from the group consisting of:

(1) the SpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution ~~at~~ of arginine to glycine at the residue corresponding to residue position 531 ~~(arginine to glycine)~~ of SEQ ID NO:2;

(2) the SpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution~~s at~~ of histidine to glutamine at the residue corresponding to residue position 214 of SEQ ID NO:2 ~~(histidine to glutamine)~~ and ~~at~~ the amino acid substitution of methionine to threonine at the residue corresponding to residue position 253 of SEQ ID NO:2~~(methionine to threonine)~~;

(3) the ΔSpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution~~s at~~ of histidine to glutamine at the residue corresponding to residue position 214 of SEQ ID NO:2 ~~(histidine to glutamine)~~ and ~~at~~ the amino acid substitution of methionine to threonine at the residue corresponding to residue position 253 of SEQ ID NO:2~~(methionine to threonine)~~;

(4) the ΔSpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution~~s at~~ of glutamic acid to glycine at the residue corresponding to residue position 69 of SEQ ID NO:2~~(glutamic acid to glycine)~~, ~~at~~ the amino acid substitution of glutamic acid to glycine at the residue corresponding to residue position 154 of SEQ ID NO:2~~(glutamic acid to glycine)~~, and ~~at~~

the amino acid substitution of isoleucine to threonine at the residue corresponding to residue position 203 of SEQ ID NO:2~~(isoleucine to threonine)~~; and

(5) the ΔSpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution ~~at~~ of aspartic acid to glycine at the residue corresponding to residue position 278 of SEQ ID NO:2~~(aspartic acid to glycine)~~.

Claims 9-16 (Cancelled).

17.(Currently Amended) A composition comprising as an active ingredient an isolated variant of an *Erysipelothrix rhusiopathiae* surface protective antigen SpaA protein or of a shortened form thereof (known as ΔSpaA protein),

wherein the SpaA protein ~~has~~ comprises the amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:7, and the ΔSpaA protein is a shortened form of the SpaA protein, in which ~~207~~the C-terminal 206 amino acid residues ~~at the C-terminus~~ of the SpaA protein of the SE9 strain of *Erysipelothrix rhusiopathiae* are deleted,

wherein said variant is immunogenic, and expressed in *E. coli* as inclusion bodies, and is selected from the group consisting of:

(1) the SpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution ~~at~~ of arginine to glycine at the residue corresponding to residue position 531 ~~(arginine to glycine)~~ of SEQ ID NO:2;

(2) the SpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution~~s at~~ of histidine to glutamine at the residue corresponding to residue position 214 of SEQ ID NO:2 ~~(histidine to glutamine)~~ and ~~at~~ the amino acid substitution of methionine to threonine at the residue corresponding to residue position 253 of SEQ ID NO:2~~(methionine to threonine)~~;

(3) the ΔSpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution~~s at~~ of histidine to glutamine at the residue corresponding to residue position 214 of SEQ ID NO:2 ~~(histidine to glutamine)~~ and ~~at~~ the amino acid substitution of methionine to threonine at the residue corresponding to residue position 253 of SEQ ID NO:2~~(methionine to threonine)~~;

(4) the ΔSpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid

sequence encoded by SEQ ID NO:7 with the amino acid substitution~~s at~~ of glutamic acid to glycine at the residue corresponding to residue position 69 of SEQ ID NO:2~~(glutamic acid to glycine)~~, ~~at~~ the amino acid substitution of glutamic acid to glycine at the residue corresponding to residue position 154 of SEQ ID NO:2~~(glutamic acid to glycine)~~, and ~~at~~ the amino acid substitution of isoleucine to threonine at the residue corresponding to residue position 203 of SEQ ID NO:2~~(isoleucine to threonine)~~; and

(5) the ΔSpaA protein ~~of the SE9 strain of *Erysipelothrix rhusiopathiae*~~ comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution ~~at~~ of aspartic acid to glycine at the residue corresponding to residue position 278 of SEQ ID NO:2~~(aspartic acid to glycine)~~.

Claims 18-25 (Cancelled).

26.(Withdrawn) A nucleic acid encoding the variant of claim 8.

Claims 27-36 (Cancelled).

37. (Withdrawn) A method for immunizing against infection with *Erysipelothrix rhusiopathiae,* comprising administering the variant of claim 8 to an animal in need of immunization.

Claims 38-45 (Cancelled).

46. (New) The isolated variant of claim 8, wherein the SpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of arginine to glycine at the residue corresponding to residue position 531 of SEQ ID NO:2.

47. (New) The isolated variant of claim 8, wherein the SpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of histidine to glutamine at the residue corresponding to residue position 214 of SEQ ID NO:2 and the amino acid substitution of methionine to threonine at the residue corresponding to residue position 253 of SEQ ID NO:2.

48. (New) The isolated variant of claim 8, wherein the ΔSpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of histidine to glutamine at the residue corresponding to residue position 214 of SEQ ID NO:2 and the amino acid substitution of methionine to threonine at the residue corresponding to residue position 253 of SEQ ID NO:2.

49. (New) The isolated variant of claim 8, wherein the ΔSpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of glutamic acid

to glycine at the residue corresponding to residue position 69 of SEQ ID NO:2, the amino acid substitution of glutamic acid to glycine at the residue corresponding to residue position 154 of SEQ ID NO:2, and the amino acid substitution of isoleucine to threonine at the residue corresponding to residue position 203 of SEQ ID NO:2.

50. (New) The isolated variant of claim 8, wherein the ΔSpaA protein comprising the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of aspartic acid to glycine at the residue corresponding to residue position 278 of SEQ ID NO:2.

51. (New) The composition of claim 17, wherein the SpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of arginine to glycine at the residue corresponding to residue position 531 of SEQ ID NO:2.

52. (New) The composition of claim 17, wherein the SpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of histidine to glutamine at the residue corresponding to residue position 214 of SEQ ID NO:2 and the amino acid substitution of methionine to threonine at the residue corresponding to residue position 253 of SEQ ID NO:2.

53. (New) The composition of claim 17, wherein the ΔSpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of histidine to glutamine at the residue corresponding to residue position 214 of SEQ ID NO:2 and the amino acid substitution of methionine to threonine at the residue corresponding to residue position 253 of SEQ ID NO:2.

54. (New) The composition of claim 17, wherein the ΔSpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of glutamic acid to glycine at the residue corresponding to residue position 69 of SEQ ID NO:2, the amino acid substitution of glutamic acid to glycine at the residue corresponding to residue position 154 of SEQ ID NO:2, and the amino acid substitution of isoleucine to threonine at the residue corresponding to residue position 203 of SEQ ID NO:2.

55. (New) The composition of claim 17, wherein the ΔSpaA protein comprises the amino acid sequence encoded by SEQ ID NO:7 with the amino acid substitution of aspartic acid to glycine at the residue corresponding to residue position 278 of SEQ ID NO:2.